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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,907	09/25/2003	Yoichi Katayama	NEC 03USFP874	8041

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HAYES, SOLOWAY P.C.
3450 E. SUNRISE DRIVE, SUITE 140
TUCSON, AZ 85718

EXAMINER	
MOTSINGER, SEAN T	
ART UNIT	PAPER NUMBER
2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/671,907	KATAYAMA, YOICHI	
	Examiner	Art Unit	
	Sean Motsinger	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/25/2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-15* is/are rejected.

7)☐ Claim(s) *8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *9/25/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/25/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Rejections Under 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1-5, 9-13, rejected under 35 U.S.C. 102(e) as being anticipated by Hung et al US 6,530,010.

1. Re claim 1 Hung discloses an image processing apparatus comprising: an input unit (data memory 145 see figure 6 column 14 line 55) receiving a plurality of pixel data (input data column 14 line 55); a controlling unit (control unit 190 see figure 6) selecting a desired transform (note the control unit executes commands to perform these transformations column 14 lines 34-37 executing the commands to perform a particular transform amounts to selecting a transform) from among discrete wavelet transform (wavelet analysis column 12 line 32) and discrete cosine transform (column 12 line 29), and providing a plurality of coefficients (note the control unit "steps through the desired memory access" column 14 lines 39-40; also note that the coefficients are stored in memory element see figure 6 element 147 therefore the control unit provides them) depending on said desired transform (see column 12 lines 36-37 note commands contain pointers to "relevant data and coefficients"

which depends on the transform); and a processing unit (data path 170 see figure 6 column 15 lines 12-13) which processes said pixel data (performs "a variety of image processing tasks" column 15 lines 114-15) using said plurality of coefficients (coefficient data column 15 line 10) to achieve said desired transform.

2. Re claim 2 The image processing apparatus according to claim 1, wherein said input unit includes: a storage unit storing said pixel data (data memory element 145 see figure 6 column 14 line 55); and a rearrangement unit (input formatter) receiving and rearranging said pixel data ("arrange the input data" column 15 line 7) so as to be adaptive to said desired transform ("desired computation" column 15 line 8) in response to a control signal received from said control unit (see column 4 lines 47-50); wherein said processing unit (data path) processes said rearranged pixel data to achieve said desired transform (performs "a variety of image processing tasks" column 15 lines 114-15 note these include the desired transforms column 12 line 29, 32).

3. Re claim 3 Hung further discloses wherein said processing unit includes: a plurality of adders (see elements 310, 320, 330...370, 380 figure 10) each calculating a sum of two of said rearranged pixel data (column 17 lines 1-3 note the input (i.e. pixel data) is supplied to that adders), said two of said rearranged pixel data being selected by said rearranged unit ("supplied by the input formatter" column 17 lines 1-2); a plurality of multipliers (elements 314, 324 ,334,...,374, 384 see figure

10) each calculating a product of associated one of said sums (result of addition column 17 line 14) and associated one of said plurality of said coefficients (column 17 line 15) ; an adder/subtractor unit (elements 318, 328, ... 378 and 390 see figure 10) executing operation on said products received from said plurality of multipliers (column 17 lines 21-25) to obtain a result data of said desired transform.

4. Re Claim 4 and 5 Hung further discloses wherein said controlling unit selects one procedure from among encoding (DCT column 14 line 29, wavelet analysis column 12 line 22) and decoding (IDCT column 14 line 29, wavelet reconstruction, column 12 line 22) through said desired transform, and develops said plurality of coefficients depending on said selected procedure (note the coefficients must be developed depending on the transform and whether one is performing the transform or its inverse to properly perform it).

5. Re claim 9 hung discloses, an image processing method comprising: receiving a plurality of pixel data (input data column 14 line 55); selecting a desired transform from among discrete wavelet transform (column 12 line 32) and discrete cosine transform (column 12 line 28); providing a plurality of coefficients depending on said desired transform (column 15 line 10); and processing said pixel data (performs "a variety of image processing tasks" column 15 lines 14-15) using said set of coefficients (coefficient data column 15 line 10) to achieve said desired transform.

6. Re claim 10 Hung discloses rearranging said pixel data so as to be adaptive to said desired transform (arrange for desired computation see column 15 lines 7-8), wherein said processing is executed with respect to said rearranged pixel data (column 15 lines 11-12 note that the input formatter send the data to the data path for processing) to achieve said desired transform (desired computation column 15 lines 7-8).

7. Re claim 11 Hung discloses wherein said processing includes: providing pixel data pairs (data A and B) each including two of said rearranged pixel data (column 17 lines 1-4), calculating sums of respective pixel data pairs (coupled to adder column 17 lines 5-10), calculating products of said sums (result) and said plurality of coefficients (column 17 lines 14-15); executing operation on said products to obtain a result data of said desired transform (column 17 lines 23-29 Note the operation described is the executed operation to obtain the result).

8. Re claim 12-13 Hung discloses selecting one procedure from among encoding and decoding through said desired transform (DCT column 14 line 29, wavelet analysis column 12 line 22) and decoding (IDCT column 14 line 29, wavelet reconstruction, column 12 line 22), wherein said plurality of coefficients are developed depending on said selected procedure (note the coefficients must be developed depending on the transform and whether one is performing the transform or its inverse to properly perform it).

Rejections Under 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 6, 7, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hung in view of *JPEG 2000 Part I Final Committee Draft Version 1.0*, ISO/IEC JTC1/SC29 WG1, JPEG 2000 Editor Martin Boliek, Coeditors Charilaos Christopoulos, and Eric Majani March 16 2000 page 145, hereinafter "JPEG 2000" .

9. Re Claim 6-7 Hung discloses all of the elements of claim 1, Hung does not disclose wherein said controlling unit selects one of an irreversible 9/7 filter and a reversible 5/3 filter to be used when selecting said discrete wavelet transform, and develops said plurality of coefficients depending on said selected filter. Hung does not disclose what wavelet filter he would use. However JPEG2000 discloses wherein said controlling unit selects one of an irreversible 9/7 filter (section G.3) and a reversible 5/3 filter (section G.3) to be used when selecting said discrete wavelet transform, and develops said plurality of coefficients depending on said selected filter (note the coeffciants must depend on the filter for it to work properly). The motivation to use these filters is to make the processing useful when using

JPEG2000 standards. Therefore one of ordinary skill in the art would have found it obvious at the time of the invention to combine JPEG2000 with Hung to achieve the aforementioned advantage.

10. Re Claim 14-15 Hung discloses all of the elements of claim 1, Hung does not disclose wherein selecting one of an irreversible 9/7 filter and a reversible 5/3 filter to be used when selecting said discrete wavelet transform, and develops said plurality of coefficients depending on said selected filter. Hung does not disclose what wavelet filter he would use. However JPEG2000 discloses selecting one of an irreversible 9/7 filter (section G.3) and a reversible 5/3 filter (section G.3) to be used when selecting said discrete wavelet transform, and develops said plurality of coefficients depending on said selected filter (note the coefficients must depend on the filter for it to work properly). The motivation to use these filters is to make the processing useful when using JPEG2000 standards. Therefore one of ordinary skill in the art would have found it obvious at the time of the invention to combine JPEG2000 with Hung to achieve the aforementioned advantage.

Allowable Subject Matter

11. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 8 contains an element "selector", where "said selector selects one of outputs of said another multiplier and said

adder/subtractor unit, and wherein said adder/subtractor unit executes operation on said products received from said plurality of multipliers and an output of said selector to obtain a result data of said desired transform" since this element is not found in the prior art claim 8 contains allowable subject matter.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Motsinger whose telephone number is 571-270-1237. The examiner can normally be reached on 9-5 M-F.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Motsinger
2/15/2007

SAMIR AHMED
PRIMARY EXAMINER